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PATENT
Customer No. 22,852
Attorney Docket No. 02860.0656-00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
Shigeru HOSOE et al.	)	Group Art Unit: 2653
	)	
Application No.: 09/670,839	)	Examiner: A. M. Psitos
	)	
Filed: September 28, 2000	)	
	)	
For: OPTICAL ELEMENT HAVING A LOW SURFACE ROUGHNESS, AN OPTICAL PICKUP DEVICE INCLUDING THE OPTICAL ELEMENT, AND A DIE FOR MAKING THE OPTICAL ELEMENT	)	Confirmation No.: 7690

Attention: Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

REPLY BRIEF UNDER BOARD RULE § 41.41

In support of the Notice of Appeal filed June 29, 2005, and further to Board Rule 41.41, Appellants present this reply brief.

This reply brief responds to the Examiner's answer dated October 21, 2005..

If any additional fees are required, Appellant requests that the required fees be charged to Deposit Account No. 06-0916.

I. ARGUMENT

In view of the reasons already presented in Appellant's Brief and the following arguments, Applicants respectfully request the Board to reverse the Examiner's rejections of claims 1-8, 10-18, 22-26, and 28-30.

A. Claims 1-4, 6, 10, and 25 Patentably Distinguish Over Ueda et al., U.S. Patent 5,481,530, and Hibino et al., U.S. Patent 5,481,530

One of ordinary skill in the art would not have been motivated to combine the disclosures of Ueda et al. and Hibino et al. as suggested by the Examiner. Indeed, neither the final rejection nor the Examiner's answer provides a proper motivation to combine. "When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references." In re Rouffet, 149 F.3d 1350, 1355 (Fed. Cir. 1998). Evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. In re Dembiczak, 175 F.3d 994, 999 (Fed. Cir. 1999). The question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. Rouffet, 149 F.3d at 1356.

The Examiner cites none of the prior art, the knowledge of one of ordinary skill in the art, or the nature of the problem to be solved. Instead, the Examiner merely states,

> . . . the examiner has presented rational as stated above, i.e., the ability to provide for extremely smooth optical element surfaces. Such smooth surfaces yield a desired ability of reducing unwanted distortions/aberrations into the light beams both to and from the optical record. Hence the ability, i.e., reduction of these distortion(s) is motivation to combine.

Applicants claim an optical pickup device using light having a wavelength not more than 500 nm and an optical element having a surface roughness of less than 5 nm. While smoothness may be important, one of ordinary skill in the art designing an optical element would have also considered factors, such as available materials, cost of manufacture, and time of manufacture. Just saying, "smooth surfaces are desired" and then applying a hindsight combination motivated by the claim is not enough. All designs are a trade-off, and the Examiner has shown nothing in the prior art or the knowledge of one ordinary skill in the art at the time of the invention to suggest that an optical element used with a light source having a wavelength not more than 500 nm must have a surface roughness of less than 5 nm.

As shown in Table 1 on page 3 of the application, Rayleigh scattering suddenly increases as the wavelength of light decreases to 500 nm or less. The present inventors recognized and responded to this influence (Application page 4). Applicants thus claim a specified smoothness for use at a specified wavelength. Nothing in the prior art cited by the Examiner suggests the desirability of the claimed combination.

Applicants therefore request reversal of the Examiner's rejection of claims 1-4, 6, 10, and 25.

B. Claim 5 Patentably Distinguishes Over Ueda et al., Hibino et al., and Inoue et al., U.S. Patent 5,759,457

Claim 5 depends from independent claim 1.

The rejection of claim 5 should be reversed for at least the same reasons as the rejection of claim 1; there is no motivation to combine Ueda et al. and Hibino et al. to achieve the claimed combination. As stated in the Examiner's Answer on page 13, Inoue et al. does not cure the deficiencies of Ueda et al. and Hibino et al. As already

explained in Appellant's Brief, there is no motivation to combine Inoue et al. with Ueda et al. and Hibino et al. as suggested by the Examiner.

C. Claims 7 and 8 Patentably Distinguish Over Ueda et al., Hibino et al., and Sato et al., U.S. Patent 5,181,141

Claims 7 and 8 depend from independent claim 1.

The rejection of claims 7 and 8 should be reversed for at least the same reasons as the rejection of claim 1; there is no motivation to combine Ueda et al. and Hibino et al. to achieve the claimed combination. As stated in the Examiner's Answer on page 13, Sato et al. does not cure the deficiencies of Ueda et al. and Hibino et al.

As already explained in Applicant's Brief, there is no motivation to combine the reflectance of Sato et al. with the surface roughness Hibino et al. as suggested by the Examiner. Hibino et al. discloses a press-molded microlens, while Sato et al. discloses a multi-layered anti-reflection film directly or indirectly on an optical component. One of ordinary skill in the art, designing a lens as in Hibino et al. would not look to Sato et al. for reflectance properties because Sato et al. rely on a multi-layer film. In addition, there is no suggestion in either Sato et al. or Hibino et al. that the multi-layer film of Sato et al. would work with the lens of Hibino et al.

D. Claims 11 and 12 Patentably Distinguish Over Ueda et al., Hibino et al., and Ueda et al., U.S. Patent 6,314,064

Claims 11 and 12 depend from independent claim 1.

The rejection of claims 11 and 12 should be reversed for at least the same reasons as the rejection of claim 1; there is no motivation to combine Ueda et al. and Hibino et al. to achieve the claimed combination. Ueda et al. ('064) does not cure the deficiencies of Ueda et al. and Hibino et al.

E. Claims 13, 14, 18, and 30 Patentably Distinguish Over Hibino et al. and Sato et al.

One of ordinary skill in the art would not have been motivated to combine the surface roughness Hibino et al. and the reflectance of Sato et al. as suggested by the Examiner. Hibino et al. discloses a press-molded microlens, while Sato et al. discloses a multi-layered anti-reflection film directly or indirectly on an optical component. One of ordinary skill in the art, designing a lens as in Hibino et al. would not look to Sato et al. for reflectance properties because Sato et al. rely on a multi-layer film.

Further, the Examiner's Answer does not refute Applicant's position that Hibino et al. does not mention reflective layers in connection with the micro-lens example (See Hibino et al., col. 19, lines 53 to col. 22, line 44). Therefore, Hibino et al. provides no motivation to include an anti-reflection film on a micro-lens.

In addition, the Examiner appears to argue that it would have been obvious to one of ordinary skill in the art to coat Hibino's lens with Sato's anti-reflection film. However, there is no suggestion in either Sato et al. or Hibino et al. that the multi-layer film of Sato et al. would work with the microlens of Hibino et al. In addition, the Examiner cites no evidence that, even if there was some motivation to make such a combination, the resulting lens would have the claimed surface roughness. There is simply no evidence that Sato's coating, the alleged resulting optical surface, would have the claimed roughness.

F. Claims 15, 16, 22, 23, and 24 Patentably Distinguish Over Ueda et al. Hibino et al., and Ueda et al. ('064)

Claims 15, 16, 22, 23, and 24 all depend from independent claim 13 and are patentable for at least the same reasons as claim 13.

In addition, dependent claims 15 and 16 recite an optical element having an aspherical surface with a center-line mean roughness Ra not more than 5 nm . The Examiner's Answer alleges that Ueda et al. (without specifying which Ueda et al.) discloses an aspherical objective lens. However, Applicants find no disclosure in either Ueda et al. patent of "aspheric" or "aspherical," and the Examiner has shown no motivation at the time of the invention to make the microlens of Hibino et al. aspherical.

G. Hibino et al. Does Not Anticipate Claim 26

Independent claim 26 recites a molding die for an optical element. The claimed molding die comprises at least one aspherical surface having a center-line mean roughness Ra of not more than 5 nm.

To anticipate, Hibino et al. must disclose each and every element of claim 26. As stated in Appellant's Brief, Hibino et al. fails to disclose a die for an optical element having an aspherical surface and thus fails to anticipate claim 26. The passages cited by the Examiner do not disclose an "aspherical" surface. Instead, the Examiner's Answer appears to argue that the curved surfaces disclosed by Hibino et al. are aspheric. A curved surface, however, is not inherently an aspherical surface. A spherical surface is curved, but is not aspherical. In addition, figures in a patent are not drawn to scale, and the Examiner cannot rely on some apparently perceived deformity in Figure 3 as disclosing an aspherical surface.

The Examiner's rejection of claim 26 as anticipated by Hibino et al. should be reversed.

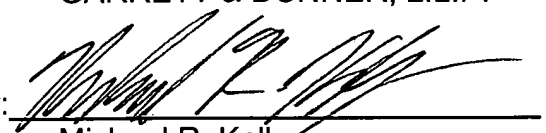
II. CONCLUSION

For the reasons given above, pending claims 1-8, 10-18, 22-26, and 28-30 are allowable and reversal of the Examiner's rejection is respectfully requested.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: December 20, 2005

By: 

Michael R. Kelly
Reg. No. 33,921